



# **DISTRIBUTED ENERGY RESOURCES ACTION PLAN UPDATE**



Commissioner Committee on Emerging Trends  
California Public Utilities Commission  
April 25, 2018

Simon Eilif Baker  
Deputy Director, Energy Division



# Outline

- DER Action Plan overview
- Action Element status snapshot
- Status updates since July 2017, by track
- Action Element delays and scoping gaps
- Challenges and opportunities
- Hot topics for 2018/19





## DER Action Plan Overview

- Endorsed by the Commission in November 2016
- The DER Action Plan is a 7-page document that:
  - **Sets a long-term vision** for DERs and supporting policies
  - **Identifies CPUC actions** needed to meet that vision
  - **Establishes a coordinating framework** across 15 proceedings and 2 CAISO stakeholder initiatives
- Does not determine outcomes of individual proceedings
- Living Document
- 17 “Vision Elements” and 35 “Action Elements” grouped into 3 tracks





## **Track 1: Rates and Tariffs**

### *Vision*

- Customer choice
- Time varying rates
- Innovative rates and tariffs
- Aligned with cost causation
- Affordable to non-DER customers





## **Track 2: Distribution Planning, Infrastructure, Interconnection, and Procurement *Vision***

- Transparent planning and sourcing
- Utility “2.0” / IOU business model
- Technology-neutral sourcing
- Recognize full GHG and grid services value
- Streamlined interconnection
- DER-enabling grid investments for ratepayer benefit
- Data communications and cybersecurity





## **Track 3: Wholesale DER Market Integration and Interconnection**

### *Vision*

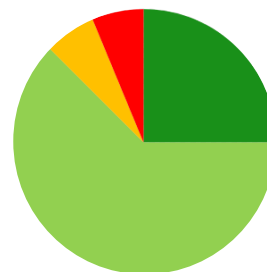
- Robust DER participation in wholesale markets
- Multiple revenue streams
- Market and interconnection rules supportive of BTM DERs
- Predictable EV behavior in grid operations
- Non-discriminatory market rules for EVs






# Action Element Status Snapshot

## Track 1: Rates and Tariffs



 Completed

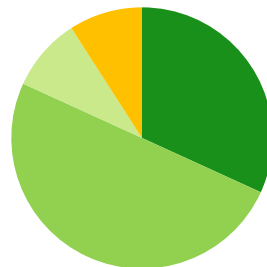
 On Track

 Deferred  
(Intentionally  
Delayed)

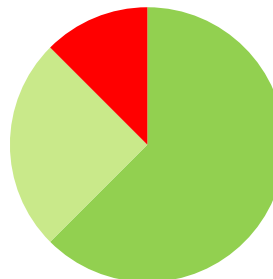
 Delayed

 Off Track or  
Not Scoped

## Track 2: Distribution Planning, Infrastructure, Interconnection, and Procurement



## Track 3: Wholesale DER Market Integration and Interconnection





# Status Update since July 2017

## Track 1: Rates and Tariffs

- **Residential TOU** ([Actions 1.2b, 1.8, 1.11, and 1.14](#))
  - *Opt-in pilots* (2016-17) concluded
  - *Default pilots* (2018) approved
  - Made findings required per P.U. Code Section 745 re: potentially vulnerable customers (D.17-09-036)
  - Default TOU RDW applications filed
- **Rate Design** ([Action 1.3](#))
  - Established fixed charge methodology (D.17-09-035)
- **Marketing, Education and Outreach** plans for time-varying rates ([Actions 1.2a and 1.13](#))
  - IOU ME&O Plans approved
  - Statewide ME&O campaign consultant contract (DDB) approved (D.17-12-023); leverages Energy Upgrade California







# Status Update since July 2017

## Track 1: Rates and Tariffs (cont'd)

- **General Rate Cases** ([Actions 1.3, 1.4 and 1.6](#))
  - SDG&E GRC2: *late-shift of TOU peak (to 4-9PM), new daytime super off-peak period during spring months, and demand charge reforms* approved (D.17-08-030)
  - Pending PG&E GRC2 (A.16-06-013) and SCE GRC2 (A.17-06-030) cases have similar issues in scope.
- **Rate design to absorb renewables** ([Action 1.4](#))
  - Residential opt-in TOU pilots (PG&E / SCE Rate 3)
  - SDG&E GRC2: *Daytime super off-peak (weekday Mar-Apr 10-2), demand charge exemption* rate option during Mar-Apr super off-peak window.
  - Advanced Rates Forum touched on RTP, other time-varying rates...procedural home for comprehensive review is TBD
  - EV Rate Design Forum forthcoming





# Status Update since July 2017

## Track 1: Rates and Tariffs (cont'd)

- **Rates Forum** ([Actions 1.6 and 1.10](#))
  - Dec 2017: 2-day workshop in considered advanced rate designs and non-residential rate design issues
- **Analytical tools to support 2019 NEM revisit** ([Action 1.12](#))
  - “Locational value” methods initially approved in the DRP proceeding (D.17-09-026). Further refinement in future decision; implementation over the coming year.
- **NEM alternatives for Disadvantaged Communities** ([Action 1.5](#))
  - PD and APD mailed in R.14-07-022





# Status Update since July 2017

## Track 2: Distribution Grid

- **Distribution Resource Planning (DRP)**

- “Locational value” and “hosting capacity” methods adopted (D.17-09-026) → Coordinated with IDER cost-effectiveness ([Action 2.1a, 2.2b, and 2.11](#))
- Distribution deferral framework adopted (D.18-02-004) → Coordinated with IDER pilot resolution ([Actions 2.1b, 2.1c, 2.1e, 2.2a, 2.2b, 2.8, and 2.11](#))
- Grid modernization (D.18-03-023) → Coordinated with GRCs ([Actions 2.1d and 2.9](#))

- **Integrated DERs (IDER)**

- Approved IDER pilot (Res E-4889) ([Actions 2.2a and 2.2c](#))
- Adopted interim GHG adder (D.17-08-022) ([Action 2.2b](#))
- Scoping memo issued on non-RFO sourcing ([Action 2.7](#))





# Status Update since July 2017

## Track 2: Distribution Grid (cont'd)

- **Streamlining interconnection** ([Action 2.3.c, 2.11](#))
  - Established expedited dispute resolution process per AB 2861 (Res ALJ-347, Oct 2017)...but now delayed due to contracting backlog
  - New Interconnection OIR (R.17-07-007) considering use of hosting capacity methods approved in DRP
- **Locational targeting of energy efficiency** ([Action 2.4](#))
  - IOU pilots completed, under review
- **Distributed Energy Resource Management Systems** ([Action 2.10](#))
  - SCE DERMs proposal under consideration in the GRC (A.16-09-001) as part of its grid modernization investment request
- **Smart inverter implementation** ([Action 2.13](#))
  - Phase 1 (autonomous) functionalities went live Sep 2017 – required for all new installations
  - Two pending draft resolutions adopting Phase 3 functionalities





# Status Update since July 2017

## Track 3: Wholesale Market Integration

- **Storage**

- Adopted Multi-Use Application (MUA) framework for storage (D.18-01-003) → coordinated with RA ([Action 3.1](#))
  - Working group launched
- AB 2868 storage applications filed (500 MW of BTM storage) ([Action 2.12](#))

- **Transmission-distribution grid interface** ([Action 3.4](#))

- CAISO's Distributed Energy Resource Provider (DERP) tariff approved by FERC, but market interest has yet to materialize.
- MTS Working Group report on T-D coordination issues and operational procedures.





# Status Update since July 2017

## Track 3: Wholesale Market Integration (cont.)

- **Demand response** ([Actions 3.2 and 3.3](#))
  - Major DR decision (D.17-10-017) authorized:
    - Additional DR auction mechanism (2018 DRAM)
    - Working group to resolve wholesale market integration barriers
    - Load Shift Working Group to develop new DR models
  - Approved DR “click-through” platform to facilitate third-party DR provider access to customer data, with consent
  - CAISO Board approved ESDER 2 proposal: alternative baselines for DR in order to facilitate participation of storage
  - CAISO ESDER 3: load-shift product, PDR technical refinements.
- **Interconnection** ([Action 3.6](#))
  - New Interconnection OIR is scoped to address “seams issues” with FERC rules such as the Wholesale Distribution Access Tariff





## Delayed Action Elements

- **Action 1.6.** By 2017, complete a review of non-residential demand charges and recommend alignment of pricing with DER vision elements and  
**Action 1.9.** By 2017, consider changes to nonresidential rate design, including modification of demand charges
  - **Delayed:** *Being handled in individual GRC 2 proceedings; PG&E and SCE GRC 2s still pending.*
- **Action 2.3b.** Conducting a formal review of utility administration of Rule 21 to identify areas for process improvement
  - **Delayed** *over a year due to contracts backlog*
- **Action 2.7.** By 2017, consider how existing DER sourcing mechanisms (e.g., programs and tariffs) should reflect location value and/or be transitioned to a competitive sourcing mechanism already reflecting locational value
  - **Delayed:** *Amended Scoping Ruling in IDER in Feb 2018*







## Not-Fully-Scoped Action Elements

- **Action 1.13.** By 2018, establish clear marketing, education and outreach plans that maximize the take-up of **time-varying rates** by customers able to take advantage of them with DERs
- **Action 3.5.** By 2018, consider **eligibility of NEM resources in wholesale markets.**
- **Action 3.7.** By 2018, complete **research critical to vehicle-grid integration** and incorporate results into transportation electrification policy.
  - Language of this action needs retooling







# Challenges and Opportunities

## Track 1: Rates and Tariffs

- Advanced Rates Forum follow-up unclear
  - Procedural home for addressing rates dimension of SGIP GHG issue

## Track 2: Distribution Grid

- No cost-effective contracts yet for DRP Demo C & D projects
  - PD on Preferred Resources Pilot rejects contracts (SCE)
  - PG&E and SDG&E advice letters declined to strike on bids
- Are utilities incentivized to pursue non-wires alternatives?
  - SDG&E and PG&E only put in for 1 IDER shareholder incentive pilot
  - DRP decision went against IOU position on potential double cost recovery of wires and non-wires alternatives





# Challenges and Opportunities (cont.)

## Track 3: Wholesale Markets

- CAISO market eligibility rules (single LSE, single DRP, within one sub-Lap) 'split' DR resources into smaller pieces that cannot meet CAISO size requirements, excluding them from the market
- CAISO's Non Generator Resource participation model (which the DERP uses) does not qualify for RA per D.14-06-050
- RA proceeding: CAISO proposal to require that all "availability limited" resources constitute less than 5% of total load in local areas + be available for more than 4 hours
- CAISO's ESDER Phase 3 is considering metering requirements for EV charging equipment to serve as a distributed resource





## Hot Topics for 2018/19

- ❑ Residential default TOU RDW applications
- ❑ NEM locational valuation methods
- ❑ Common Resource Valuation Method (an IRP / IDER collaboration): concept paper expected Q2 2018
- ❑ Implementation oversight of DRP distribution deferral framework, grid modernization plans, etc.
- ❑ Alternative (non-RFO) sourcing methods for distribution deferral DERs
- ❑ Using ICA to streamline interconnection
- ❑ Developing compensation mechanisms for smart inverter advanced functionalities
- ❑ Creating a DR market product to shift loads to consume excess generation and lower the evening ramp
- ❑ Examining EV rates and affordability (EV Rates Forum)





# Questions?

## **DER Action Plan Contacts:**

Simon Baker ([Simon.Baker@cpuc.ca.gov](mailto:Simon.Baker@cpuc.ca.gov))

Gabriel Petlin ([Gabriel.Petlin@cpuc.ca.gov](mailto:Gabriel.Petlin@cpuc.ca.gov))

Mary Claire Evans ([MaryClaire.Evans@cpuc.ca.gov](mailto:MaryClaire.Evans@cpuc.ca.gov))

